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# Innovations towards prosperity emerging in locally controlled forest business models and prospects for scaling up

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ABSTRACT

The combined impacts of multiple locally-controlled forestry (LCF) businesses will play a key role in shaping the fate of forest landscapes. This article analyses how such enterprises contribute to a broad notion of prosperity as 'that which people value and have reason to value in line with the common good'. It focuses on innovations that are found in those businesses and highlights how these differ from other models of business, which often pursue, for a limited number of people, a limited subset of that which people value. We present an analysis of 50 case studies from 24 countries which illustrate how LCF businesses advance many values that make up prosperity in part because their collective ownership involves people who live with the consequences of their decisions in those forest landscapes. The cases are analyzed using a framework of six value categories oriented to a conception of the common good, with six indicators for business contributions to those values. Our study finds organizational innovations in each area that can be scaled-up to advance broader prosperity in relation to forests: democratic oversight bodies governing environmental and cultural stewardship, negotiated benefit distribution and financial vigilance mechanisms, networks for better access to markets and decision-making, processes for conflict resolution and justice, processes of entrepreneurial training and empowerment for both men and women, and branding that reinforces local visions of prosperity. We conclude by examining the need and prospect for upscaling such innovations by strengthening economically sustainable, tiered producer organizations. We argue that such upscaling is indeed possible and imperative for delivering the Sustainable Development Goals and the Paris Agreement on climate change.

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## 1. Introduction

Humanity's chief evolutionary advantage, cooperative capability (Bowles & Gintis, 2008), has allowed people to outcompete other species for millennia through shared language and ideologies that mobilize organized action in, for example, business models. But the era in which those business models can co-opt seemingly infinite natural resources to meet human needs is ending. It is unsustainable for expanding human populations and tastes to be served by business models that exacerbate inequalities (Wade, 2004), while exhausting the substrates of life, including forest landscapes (MEA, 2005). Forest loss is already having deleterious effects on people whose livelihoods depend on forests, especially in developing countries (Angelsen et al., 2014; Sunderlin et al., 2005). With the widely endorsed Paris Agreement on climate change, and the 2030 Agenda for Sustainable Development with its Sustainable Development Goals (SDGs) that include targets to eradicate poverty and restore forest landscapes, examining how forest business models might better contribute to prosperity is timely.

Most tropical forests have historically been under government control (72% in 2002 falling to 60% in 2015) (RRI, 2016), and the preferred use of government forests has been large-scale industrial forestry. For example, in eight tropical countries in Africa, Asia and Latin America, for which the total area of forest was 258.7 million ha, industrial timber concessions amounted to 139.3 million ha, as opposed to 23.21 million ha designated for local control by communities and indigenous peoples (Molnar et al., 2011). Yet the annual gain in forest area has come mostly from areas under local rather than industrial control, for example in European agricultural smallholdings (Mather, 2001) or household and community

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smallholdings in countries and regions such as China, Philippines, and Vietnam (Weyerhaeuser, Wilkes, & Kahrl, 2005; Meyfroidt & Lambin, 2008; Dinh Le, Smith, Herbohn, & Harrison, 2012).

While several assessments of industrial-scale corporate forest concessions in natural forests find a patchy record in terms of sustainable forest management and human prosperity in regions such as Indonesia or the Congo (Abood, Lee, Burivalova, Garcia-Ulloa, & Koh, 2015; Brandt, Nolte, & Agrawal, 2016), there are suggestions that stronger oversight mechanisms could improve their impacts (Karsenty, Drigo, Piketty, & Singer, 2008). Nevertheless, similar criticisms have been levelled at the industrial plantation sector (Gerber, 2011; Schirmer, Pirard, & Kanowski, 2016). Even where forest industries have established supply arrangements with communities, these have been found in general to be not equitable enough to be called partnerships, nor sufficient to lift people out of poverty (Nawir & Santoso, 2005; Vermeulen, Nawir, & Mayers, 2008).

Locally-controlled forestry (LCF) is an umbrella term agreed by international alliances of family, community and indigenous people's forestry to be defined as 'the local right for forest owner families and communities to make decisions on commercial forest management and land use, with secure tenure rights, freedom of association and access to markets and technology' (Macqueen, Buss, & Sarroca, 2012). Businesses based on LCF, where multiple local owners live with the consequences of their decision, have provided a diversity of environmental and socio-economic benefits (Bowler et al., 2010; Porter-Bolland et al., 2012; Seymour, la Vina, & Hite, 2014). Identifying how these benefits arise could be useful to efforts to implement Agenda 2030 and the Paris Agreement on climate change, including initiatives specifically aimed at Reducing Emissions from Deforestation and forest Degradation (REDD+) outlined by Weatherly-Singh and Gupta (2015), where practical implementation mechanisms are urgently needed (Lund, Sungusia, Mabele, & Scheba, 2017).

To harness forest resources so that they contribute to prosperity, new ideas aimed at mobilizing organized action to sustain the global ecosystem, rather than co-opting it for short-term benefits, are needed. LCF businesses, which feed, fuel, and furnish the livelihoods of at least 2.4 billion people as they strive for prosperity (Mayers, Buckley, & Macqueen, 2016) merit consideration. A scaling up of more promising LCF models could make significant contributions to meeting the goals of the 2030 Agenda and the Paris Agreement on climate change. But in the realistic context of the global economy there are issues of political economy (associated with current business models) and transaction costs (associated with greater involvement of LCF models) to be considered.

Several studies have examined LCF businesses regarding specific outcomes, including self-organization (Ostrom, 2009), self-sufficiency (Hajjar, McGrath, Kozak, & Innes, 2011), financial viability (Humphries et al., 2012), improved environmental conditions (Agrawal & Chhatre, 2006) and equitable distribution of benefits (Mahanty et al., 2006; McDermott & Schreckenberg, 2009; Rahut, Ali, & Behera, 2015; Yadav, Bigsby, & MacDonald, 2015). Other studies have analyzed LCF business capacity to achieve the triple bottom line (Pagdee, Yeon-Su, & Daugherty, 2006; Shusser et al., 2015). But we are not aware of studies that have analyzed LCF businesses against variables representing the broader concept of prosperity.

In addition, many studies have pointed to the challenges of LCF forestry such as: common resource management (Gibson, Williams, & Ostrom, 2005), elite capture (Persha & Andersson, 2014), access to finance (Vega & Keenan, 2016), access to markets (Scherr, White, & Kaimowitz, 2003), access to infrastructure and support services (Belcher, Achdiawan, & Dewi, 2015; Wunder, Börner, Shively, & Wyman, 2014; Wunder, Angelsen, & Belcher, 2014), cost sharing and scale efficiencies (Humphries et al., 2012), tenure insecurity (RRI, 2012; Anderson, Mehta, Epelu, & Cohen, 2015), gender inequality (Agarwal, 2001), and cultural clashes with the conventional idea of the firm (Antinori & Bray, 2005). This paper in no ways seeks to diminish those very real challenges. Nevertheless, our work with communities around the globe has shown us that many LCF businesses are utilizing forest landscapes in ways that address these challenges and achieve a diversity of objectives, and in doing so are making important, innovative, and yet to be systematically documented contributions to prosperity.

In this paper, the authors (who together co-manage the Forest Connect alliance[1]) use a grounded-theory approach to propose a framework for prosperity and, through an in-depth review of 50 case studies, identify specific innovative ways in which LCF businesses contribute to different elements of the framework. Specifically, we seek to identify how LCF business models are contributing to a wider spectrum of values beyond what is typically used to measure business [economic] performance. The paper starts by drawing from the peer-reviewed literature a set of value categories that together circumscribe 'that which humans value in line with the common good' – our definition of prosperity. It then describes the search for published LCF business case studies. The results are presented to answer the research question: 'Are there innovations towards prosperity in LCF business that derive from organizational constructs or processes that deliver value in ways not generally to be found in industrial-scale corporate business models'. The results present examples within 50 LCF business case studies of innovations in contributing value in the categories that together comprise prosperity. In the discussion we also explore the potential contribution of the innovations emerging in LFC business cases to the implementation of the Sustainable Development Goals (SDG's). The paper concludes with some thoughts on the need and prospects for scaling up those innovative contributions.

## 2. Methods

### 2.1. Developing a value-based framework for assessing prosperity

There are many useful ways of categorizing what humans value which are captured in human rights legislation (UN, 1948) and the Sustainable Development Goals (UN, 2015). We use as a guiding definition of prosperity: *that which people value and have reason to value in line with the common good* which is adapted from Alkire's (2010) definition of human development: *the processes that direct people's freedoms to do and be what they value and have reason to value in line with the common good, and that empowers them in that pursuit.* We follow the argument of Sen (2004), expanded in Alkire (2010), that while it is necessary to select key categories of value, or dimensions of development, one should resist specifying a canonical list that is to be applied at all times and in all places.

With that warning in mind, we advance here a theory of that which people value and have reason to value in line with the common good (prosperity) as a set of six value categories. This theory is drawn in part from exposure of the authors to field experience of what motivates people pursuing prosperity in forest landscapes and then trying to articulate and categorize the values that motivate them – a grounded theory approach (see Glasser and Strauss 2017). We found that our initial categories of that which people value (or love) fit with the four-fold framework proposed by Lewis (1960) – values based on familiarity, common interest, passion and charity, but with the latter category better reflecting the

[1] The Forest Connect alliance is an ad hoc knowledge alliance of more than 1000 individuals from more than 90 countries dedicated to sharing best practice in support of locally controlled forest businesses (Macqueen, 2008).

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way in which value is pursued, rather than what is valued (see Macqueen, 2013). For example, people value things based on familiarity, such as their garden or house, or based on common interest, such as a book club or neighborhood watch network, or based on passion, such as fitness training or religion – with charity affecting whether they chose to accumulate value for themselves or share it with other. The degree to which something is valued appears to be relative to previous experience or current comparison, and this appears especially true of possessions (Carter & Gilovich, 2010).

In order to check the validity of these categories, we cross referenced (and thereby reshaped the definition of) our value categories with the many (often more divaricated) categories of value based on varied data and laid out by a substantial, but not exhaustive, group of authors (Alkire, 2002; Allardt, 1993; Andrews & Withey, 1976; Costanza et al., 2007; Cummins, 1996; Diener & Biswas-Diener, 2008; Doyal & Gough, 1993; Galtung, 1994; Grisez, Boyle, & Finnis, 1987; Lasswell, 1992; Max-Neef, 1993; Nussbaum, 2000; Qizilbash, 1996; Ramsay, 1992; Rawls, 1993; Schwartz, 1994). We also cross referenced our value categories by checking that they were both adequate and sufficient to encompass the full spectrum of human values explicitly documented by the United Nations (UN) either as human rights or shared goals (UN, 1948, 1966a, 1966b, 1992, 2007, 2015), plus the worker's rights negotiated by the International Labor Organization (ILO, 1998, 2008), and the rights to education negotiated by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 1989). As we focused on forest landscapes, we further cross referenced our value categories with the main certification principles of the Forest Stewardship Council (FSC, 2015) and the Fairtrade Labelling Organization standard for timber (FLO, 2011). The six resultant categories have formed the basis of practical investigations into the values pursued by business owners within risk management assessments worldwide (Bolin & Macqueen, 2016) and in the use of those values as governance levers through which to shape the behavior of forest businesses (Macqueen & Falcao, 2016). We conclude the six categories have proved both adequate and sufficient to describe and explain the full set of values encountered. But as noted above, our intent was not to devise a canonical list of value categories, but rather to prepare a robust and defensible framework of value categories that fit, or are readily applicable to, a wide variety of LCF business models and their behaviors – see Glasser and Strauss (2017). It was within these value categories that we looked for innovations arising from within LCF businesses.

Our framework disaggregates prosperity into three clusters and six different categories of non-commensurate values including:

#### 2.1.1. Values based on familiarity

(i) Sustained environmental and cultural heritage (i.e. appreciation and stewardship of the diversity and beauty embodied in natural and built landscapes and all the art and craft derived from senses, thought and imagination).
(ii) Material wealth and health (i.e. appreciation of the means to secure material needs such as food, clothing, housing, social protection, entertainment and so on, alongside the sustenance of life itself, such as maternity and childcare, bodily health and integrity).

#### 2.1.2. Values based on common interest

(iii) Affirmative social relationships (i.e. appreciation and engagement in human or nature-based friendships and associations, including participation in social networks and systems that organize and govern society and the productive systems that sustain or protect it).
(iv) Personal and collective security (i.e. appreciation and securing of physical and psychological safety within domestic, work and recreational environments through systems that moderate natural, social and economic forces or powers).

#### 2.1.3. Values based on passion

(v) Personal and reproductive fulfilment (i.e. appreciation and realization of freedom of choice and action, and the educational support to develop self-expression, skills and creativity in work, leisure, and familial love).
(vi) Cognitive identity and purpose (i.e. appreciation and determination of value, meaning, accomplishment and esteem through the application of emotions and practical reason).

This framework accepts evidence that there is a striking and distinct polarity in the ways humans pursue value – between 'self-enhancement' and 'self-transcendence': i.e. the pursuit of 'personal achievement' and 'power' at one extreme (with a suite of other values associated with those), and the pursuit of 'benevolence' and 'universalism' at the other extreme (plus a suite of other values correlated with those) (Schwartz, 1992, Bardi & Schwartz, 2003; Crompton, 2010). Pursuing values selfishly or benevolently will have different outcomes. The pursuit of prosperity involves self-transcendence towards the 'common good' (that which is shared and beneficial for all or most members of a given community). This is not something fixed or static, but rather something negotiated and flexible. As noted in Agrawal and Gibson (1999), the communities for whom the common good is pursued comprise multiple actors with mixed interests, at a range of scales from local to global. As a result, it is the degree to which those actors can influence, through institutional design, what values weigh in the decision-making process that is critical in defining the common good, and indeed in defining what prosperity is.

### 2.2. Assessing performance of 50 LCF business models across six categories of values

We used the framework above to assess case studies to identify how different LCF business models contribute to the value categories. We found case studies on LCF businesses, in addition to those already known to the authors, through an internet-based literature search using key words such as: locally controlled forestry enterprise, community forest enterprise, community-based forest enterprise, small forest enterprise (SFE), small and medium forest enterprise (SMFE) and smallholder forest enterprise, while also interchanging the word 'enterprise' with 'business'. There were insufficient resources to commission new case studies against rigorous selection criteria (i.e. to reduce selection bias). From the many mentions of LCF businesses, we restricted our selection to case studies which, in our own judgement, described the organizational and management structures used to pursue value and the resultant business outcomes in sufficient detail as to provide useful insights. Many of the descriptions of LCF businesses that we encountered (especially in peer reviewed literature) were too cursory on organizational or management structure to allow insight into if and how they delivered value, and so were not selected for further analysis. The total number selected came arbitrarily to 50 detailed (but not strictly comparable) case studies of forest and farm businesses from 24 countries in Asia, Africa and Latin America (Table 1).

There are selection biases in our work that are in part a function of the limited published data on LCF businesses. For example, we focused on the global south because this is where the peculiar challenges for LCF business lie in reducing deforestation while

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**Table 1**
Summary of the number of LCF business case studies that were analyzed by continent and primary product type.

| Categories of case studies | Timber | NTFPs | Services | Total |
|---|---|---|---|---|
| Africa | 3 | 5 | 2 | 10 |
| Asia | 8 | 12 | 0 | 20 |
| Central and South America | 12 | 7 | 1 | 20 |
| Total | 23 | 24 | 3 | 50 |

simultaneously building prosperity, but this limited the number of case studies available and omits many useful northern insights. Additionally, while searching for examples across regions, Africa remained under-represented compared with Asia and Latin America. Similarly, while the numbers of timber and NTFP businesses encountered were almost identical, examples of service business (e.g. ecotourism) were under-represented in our selection. Finally, our use of existing case studies introduces the bias that many of these tend to document success. This latter bias is important because it means our results probably overestimate (and thereby misrepresent) the quantitative occurrence of useful innovations, although not the qualitative nature of those innovations – the focus of the paper. Because not much detailed analysis of LCF business cases exists, 40 of the cases which were deemed to contain sufficient detail for useful insight had been documented through grants distributed by the Forest Connect alliance (i.e. overseen by this papers authors). The remaining 10 cases were derived from other published literature [e.g. from various authors in the Rainforest Alliance, the Forest Stewardship Council (FSC, 2011) and the European Tropical Forest Research Network (ETFRN, 2015)]. To provide more precision on the rationale against which these cases were written, of the total, nineteen case studies involved deliberate documentation of perceived successful LCF business models (Macqueen, Bolin, & Greijmans, 2015). Ten were assessed from literature highlighting successful business support work by the Rainforest Alliance and FSC. A further eight involved documentation of established businesses participating in a process of risk management self-assessment (Bolin & Macqueen, 2016). Thirteen case studies were documented outside any overarching programmatic work, but often to illustrate success of some kind. Future research could usefully build on the findings of this paper through better resourced and more rigorous selection processes to provide more representative coverage with respect to geography, subsectors and business viability.

All business models are essentially collective attempts to deliver something that humans value (as must be the case if one is to have both a buyer, who values what is offered, and a seller who values what is gained through the sale). The ambition of business models, however, varies hugely. Some involve attempts to deliver very small subsets of what humans value to very small numbers of people (e.g. financial profits to shareholders). What we looked for was documented evidence of contributions to the fuller set of that which people value in line with the common good within LCF business case studies. For each case study, formal documentary review took place, with the authors identifying (and manually collating in a table) possible examples of practices that contributed to each of our six categories of value. The judgement of the authors was then used manually to code each tabulated cell by color (Table 2):

(i) dark grey – explicit written evidence of a favorable practice
(ii) grey – implicit but undetailed description of a favorable practice
(iii) blank – undocumented or cited as an issue requiring further investment.

Within the many tabulated cells in which there were explicit examples of favorable practices (dark grey), we then made an assessment as to whether these constituted innovations, defined for this article as 'organizational constructs and processes within LCF businesses that deliver value in ways not generally to be found in industrial-scale corporate business models'. To do so, we used the most generally distinctive feature of LCF businesses, collective local ownership and/or group decision-making, and assessed whether those distinctively LCF traits had contributed clearly to prosperity in one or more of the six value categories in ways that would be unusual for industrial-scale corporate business models. Once all the (dark grey) cells had been assessed in this way, we marked those with an 'X' where some form of innovation had been found, clustered similar types of innovation using our own experience and judgement, and then wrote narrative text to attempt to describe the nature of the innovations towards prosperity.

Finally, we reviewed the SDGs considering the six value categories for prosperity in our framework and the various innovations by LCF businesses in each category. We then highlighted one innovation per value category and identified specific SDGs which that innovation could help achieve.

## 3. Results

We found that LCF businesses use many different structures to explicitly promote a wide spectrum of values for the common good. These included different levels of organization: first tier organizations (forest producers grouped into a single local business entity), second tier organizations (forest businesses grouped into a single regional business entity) and third tier organizations (clusters of regional businesses grouped into a national business entity). They also included different forms under which the businesses were registered, including informal local producer groups (e.g. Lao Keoset Organic Coffee Producer Group), associations or unions (e.g. APMIL timber in Bolivia, Yemboama NTFP Union in Burkina Faso), cooperatives (e.g. Birbirsa coffee cooperative in Ethiopia, Fedecovera in Guatemala), and federations (e.g. CBHE honey in Cambodia).

Of the 50 LCF business cases analyzed (Table 2), 36% were delivering value in all categories, and a further 52% were delivering value in all but one category. The exceptions can be put down to: (i) case studies which did not include a description of the value in question or the business' response to it; (ii) case studies in which the value category did not need attention (e.g. justice and security systems not needing business intervention); or (iii) case studies where delivering that value was described as a problem yet to be solved by the business. Table 2 displays for all 50 case studies, the described contribution to different categories of values. Table 2 also indicates with an X cases in which perceived innovations toward prosperity merited further described below. With so many cases, it is impossible to describe fully the innovations from all case studies.

In the following sections, for each of the six categories of that which people value, we describe one or two concrete types of innovations towards prosperity followed by several examples from specific cases.

### 3.1. Values based on familiarity

#### 3.1.1. Sustained environmental and cultural heritage

A first innovation in locally controlled forest business models is that they often have *democratic oversight bodies governing environmental and cultural stewardship.* This is unusual for businesses and usually comprises boards or general assemblies involving landscape-level representatives from local communities to whom

**Table 2**
The extent to which locally controlled forest businesses deliver that which people value and particular innovations in doing so.

| | Descriptors | Basis, categories and indicators for value, that together constitute prosperity if pursued for the common good | | | | | |
|---|---|---|---|---|---|---|---|
| | Value basis | Familiarity | | Common interest | | Passion | |
| | Value categories | Sustained environmental and cultural heritage | Material wealth and health | Affirmative social relationships | Justice and security | Personal and reproductive fulfilment | Cognitive identity and purpose |
| | Business indicators towards landscape-level prosperity as they apply to particular locally controlled forest business case studies | Degree to which businesses achieve integrated environmental and cultural stewardship at landscape level | Degree to which material benefit sharing within the landscape is integral to business design | Degree to which businesses enhance networks for market access and local representation in landscape decision-making | Degree to which businesses address landscape-level risks, injustice and conflict | Degree to which businesses offer opportunities for gender equal personal development within the landscape | Degree to which the business brand aligns with that which people value for the common good (prosperity at landscape level) |
| No. | Country, business name, product types including timber, Non-Timber Forest Products (NTFPs) and services. | | | | | | |
| | | | | | | | |
| 1 | Bolivia, AIMCU, Timber | | | | | X | |
| 2 | Bolivia, APMIL, NTFP - Honey | | | X | | | |
| 3 | Brazil, COOMFLONA, Timber, NTFPs – latex, oils, seeds | | X | | | | |
| 4 | Burkina Faso, Yemboama Union, NTFPs – fruit, gum, honey | | | X | | | |
| 5 | Cambodia, CBHE, NTFP – Honey | | | | | X | |
| 6 | Cambodia, Mondulkiri Forest Venture, NTFPs – honey, resin, bamboo | | | | X | | |
| 7 | Cambodia, Rattan Association of Cambodia (RAC), NTFP - rattan | | | X | | | |
| 8 | Cameroon, Mixed Farmer Common Initiative Group, NTFPs – Seedlings, honey, Services - ecotourism | | | | | X | |
| 9 | Chile, SSC Wood Technologies S.A., Timber | | | | | | X |
| 10 | Ecuador, Allpabambu, NTFP - bamboo | | | X | | | |
| 11 | Ecuador, Asociación Rio 7, NTFP - bamboo | | | | X | | |
| 12 | Ethiopia, Aburo Cooperative, NTFP – frankincense | | X | | | | |
| 13 | Ethiopia, Birbirsa Cooperative, NTFP - coffee | | | | | | X |
| 14 | Gambia, Tumani Tenda Ecotourism Enterprise, Services - Ecotourism | | | | X | | |
| 15 | Gambia, Kombo Cashew Farmers Association (KCFA), NTFP - cashew | | | | | X | |
| 16 | Guatemala, ACOFOP, Timber | X | | | | | |
| 17 | Guatemala, Chachaklum, Forest Management Services | | | X | | | |
| 18 | Guatemala, Fedecovera, Timber, NTFPs – cardamom, tea, coffee, cocoa, essential oils, allspice, | | | X | | X | |
| 19 | Guatemala, Suchitecos, Timber | X | | | | | |
| 20 | Guatemala, XateMayaland Committee, NTFP – Xate palm leaf | | | | | | X |
| 21 | Honduras, CAIFUL, Timber | | | X | | X | |
| 22 | Honduras, COATAHL, Timber | | | | | | X |
| 23 | Honduras, Moskibatana, NTFP – Batana Oil | X | | | X | | |
| 24 | Indonesia, KHJL, Timber | | | X | | | |
| 25 | Indonesia, KWLM, Timber | | X | | | | X |
| 26 | Indonesia, KWML, Timber | | X | | | | |
| 27 | Kenya, Kisii Tree Planters Association (KTPA), Timber | | X | | | | |
| 28 | Kenya, South Coast Forest Owners Association (SCOFOA), Timber , NTFP – mango and neem | | | X | | | |
| 29 | Lao PDR, Keoset, NTFP – Coffee | | X | | | | |
| 30 | Lao PDR, Teak smallholders - Timber | | | | X | | |
| 31 | Lao PDR, Houaphanh Handicraft groups - Bamboo | X | | | | | |
| 32 | Mexico, Ejido El Largo, Timber | X | | | | X | |
| 33 | Mexico, UCFAS, Timber furniture | X | X | | | | |
| 34 | Mexico, TIP Muebles, Furniture retail | | X | | | | |
| 35 | Myanmar, La Myang Community Forest Rattan and Bamboo Group Business, NTFP – rattan | | | | X | | |
| 36 | Nepal, Himalayan Bio Trade Pvt Ltd, Paper | | | X | | | |
| 37 | Nepal, Himalayan Natural Pvt Ltd | | | | | | X |
| 38 | Nepal, Chisapani community forestry user groups (CFUG) - Fuelwood and timber | | X | | X | | |
| 39 | Nicaragua, Awas Tingni - Yamaba, Timber | | | X | | | |
| 40 | Peru, ASCART, NTFP - Brazil nuts | | X | | | | |
| 41 | Peru, Tres Islas, Timber and NTFP Brazil Nut and Aguaje Palm Fruit | X | | | | | |
| 42 | Philippines: Sunflower Weaver's Association (Sunflower) – NTFP Hinabol Fabric | | | | | X | |
| 43 | Tanzania, Mpingo Conservation and Development Initiative (MCDI), Timber | | | | | | X |
| 44 | Thailand, Doi Chang Coffee Farm, NTFP - Coffee | | | | | | X |
| 45 | Thailand, Tree Bank Foundation - Timber | | X | | | | X |
| 46 | Thailand, Thung Yao women group - NTFP | | | | | X | X |
| 47 | Thailand, Pred Nai Mangrove Network - Crabs | | | X | | | |
| 48 | Vietnam, Association of Quang Tri Smallholder Forest Certification Groups, Timber | | | | X | | |
| 49 | Vietnam, Ben Hai Forestry Company, Timber, furniture, woodchip, resin and seedlings | | | | X | | |
| 50 | Zambia, North Western Bee Products, NTFP - Honey | | | X | | | |

Key: x = innovations further described in results below. Dark grey = document example of favorable practice; Grey = implicit but undetailed description of favorable practice; Blank = undocumented or cited as an issue requiring further investment.

they report. This gives local democratic oversight over business activities. For example, in Mexico the ICOFOSA general assembly oversees the overall sustainability of the value chain supplying the UCFAS furniture business and the TIP Muebles retail business (Garcia & Lozano, 2015, Klooster, Taravella, & Hodgdon, 2015) which are both owned by communities pertaining to that general assembly. There is evidence from the case studies that these structures mobilize organized action to protect environmental and cultural stewardship of the environment. For example, by mapping the landscape in the indigenous community of Tres Islas in Peru,

it was possible for the community leadership to identify productive zones for a range of products (timber, nuts, palm fruit) while maintaining the overall integrity of the landscape (Che, Deza, & Hodgdon, 2015).

In many cases, local democratic oversight drives high environmental standards. For example, representation of 12 Petén community concession members within the umbrella association ACOFOP, including Suchitecos (Ochaeta, 2016a), enabled shared approaches to Forest Stewardship Council (FSC) certified responsible management by all members. Subsequent independent assessments of sustainability have shown that the commercial timber species overseen by ACOFOP are regenerating in a way that is sustainable given current harvesting levels (Grogan et al., 2015). The community leadership body of Ejido El Largo in Mexico not only oversaw from 1976 the gradual assertion of community control over the harvesting area of the former concession company, Bosques de Chihuahua, but then went on to achieve FSC certification in 2001. Ejido El Largo now maintains five active fire brigades and two tree nurseries with a production capacity of 800,000 plants per year under the direct management of the business manager – but with full oversight by the general assembly of the wider community (Hodgdon & Murrieta, 2015). Another example comes from Houaphanh province in Lao PDR, where a network of 34 multi-ethnic groups manage their forests sustainably and preserve their skills in weaving silk fabric and bamboo handicrafts (notably Lao sticky rice baskets) so that they can deal with orders from the domestic market while conserving the resources on which their products are based (Greijmans and Hitzges, 2012).

In several cases, the management practices developed by local communities have gone on to inform national standards. For example, in Honduras, Miskitu *Batana* palm harvesting techniques developed under a local oversight committee, and governed by a general assembly drawn from 36 participating local indigenous communities, achieved FSC certification. The practices were subsequently used to develop national guidelines for *Batana* harvesting (Hodgdon & Sandoval, 2015). In Bolivia, biodiversity conservation lobbying from within the national association of agro-ecological producers (AOPEB) led the government to pass legislation that promotes and regulates organic non-timber production and agroforestry. MINGA (La Asociación de Grupos Mancomunados de Trabajo) benefits from this law, as its members – some 1,500 families – do not use any chemicals and its products can therefore be certified as organic for many types of wild fruit (acerola, achachairú, conservilla, guava) that are suitable for preserving or otherwise processing, giving farmers new options for diversifying income and adding value (FAO & AgriCord, 2016).

#### 3.1.2. Distribution of material wealth and health

A second innovation in locally controlled forest business models involves *negotiated benefit distribution and financial vigilance mechanisms.* Negotiated benefit distribution mechanisms that involve all members of a business are again quite unusual. Financial vigilance committees were often found to verify implementation under the oversight of community general assemblies. This ensures reinvestment of financial profit towards priorities defined at the local level. For example, in the Brazilian cooperative, COOMFLONA, the General Assembly has developed a mechanism for the distribution of profit towards a business investment fund (45%), dividends for cooperative members (20%) a fund to help the communities (15%) a legal reserve (10%), a healthcare fund (5%) and an education fund (5%) (Humphries, Andrade, & McGrath, 2015). In several cases, financial audit committees sitting below the general assembly ensure that profits are channeled towards the agreed priorities of the membership. For example, in the Aburo Forest Managing and Utilizing Cooperative which harvests and sells Frankincense in North-West Ethiopia, an audit committee ensures that financial and material possession of the cooperative are transparent and accounted for (Lemenih & Idris, 2015). Instead of financial redistribution of benefits, some Nepali community forest user groups (e.g. Chisapani) installed wood depots (locally known as *ghaatgaddhi*) to distribute fuelwood and timber to members in need and allocated 1.5 ha from the community forest to each household of poor and marginalized groups, including indigenous peoples, Dalit and Madheshi, to cultivate economically valuable NTFPs and medicinal or aromatic plants (Roy, Silori, Bhandari, & Paudel, 2014).

Collective oversight of finance can also lead to innovative mechanisms to benefit business members. For example, in the Peruvian Brazil nut cooperative, ASCART, profits were directed into a revolving loan fund available at the beginning of the harvesting season to allow members to cover costs associated with transport, wages, food and other expenses (Hodgdon & Martinez, 2015). Likewise, in the Keoset Organic Coffee Producers Group in Laos, membership fees were used to capitalize a loan fund to cover member producer's cash flow needs in establishing coffee plantations (Phimmavong, 2015). In the Kenya Kisii Tree Planters Association, a 'merry-go-round' kitty, established through members' contributions, is used as a source of loans to pay for tree planting (Kilonzi & Obuola, 2016a). Local oversight also allows innovative financial structures to be developed in partnership with other local service providers. For example, in the Indonesia teak cooperative, KWLM, a deal was struck whereby members could borrow from a local credit union CUKATA and use their trees as collateral – so that they could maintain the harvesting schedule agreed in their FSC certified management – while also providing for short term cash flow needs of members such as for health or schooling costs (Windratmo, Zaini, Unggul, & Sulistio, 2015). In another teak-grower's cooperative in Java, KWML, the cooperative could secure loans from a local finance agency to ensure that subsidiary furniture businesses of members could receive start-up capital to develop their carpentry workshops (Bakhtiar et al., 2015). Similarly, in Thailand, the Tree Bank Foundation, manages a member and 'living trees' database which tracks the member's growing trees and accumulating timber volumes as collateral for loans. The database determines how much a member can withdraw in advance cash or can be provided with a loan from one of the Tree Bank branches in Chumpol or Lampang (Tree Bank Foundation, 2016).

In many cases, the local establishment and oversight of a second-tier organization proves useful to aggregate and process product, but these are often run with tight margins to balance the need for financial viability with prices paid to their owning first tier member organizations. For example, in the Mexican ICOFOSA community ownership structure, a second-tier organization (TIP Muebles) sells furniture from three community owned furniture makers (including UCFAS, Garcia & Lozano, 2015) – buying in bulk and then selling on at a slight margin – while providing a market for local furniture product (Klooster et al., 2015). The resultant gains in market access achieved by TIP Muebles feed back into greater benefits to the constituent community owned business such as UCFAS – even though the profitability of TIP Muebles is not itself maximized.

### 3.2. Values based on common interest

#### 3.2.1. Affirmative social relationships

A third innovation emerging from locally controlled forest business models lies in the development of *networks for better access to markets and decision-making.* Improving access to decision-making for local producers does not normally fall within the domain of business. But the network structures described here enable local producers to develop affirmative relationships, through designated

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representatives, in both the market and political decision-making fora. For example, in terms of business networking, the CAIFUL cooperative in Honduras is one of 12 cooperatives linked through a second-tier organization UNICAF which has handled an FSC group certificate and worked to improve market linkages and co-invest in value-added processing (Gómez & Hodgdon, 2015).

Often second tier organizations play a critical role in aggregating product and brokering market access for diverse first tier businesses. For example, the second-tier organization ADAPICRUZ in Bolivia sources honey from multiple small community honey business like APMIL in Santa Cruz, Bolivia and links them to markets at the national level (Gutiérrez, 2015a). The North-Western Bee Products (NWBP) community owned company also serves as a buyer and distributor of honey for more than 4000 beekeepers across four districts of Zambia (Mickels-Kokwe, 2006). Similarly, Himalayan Bio Trade, serves as a processing and marketing enterprise for handmade paper, providing a market for four community-owned paper making enterprises spanning 35 community forest user groups in Nepal, all of whom are certified by the Forest Stewardship Council (Subedi, Khanal, & Ghimire, 2015a). In Guatemala, the specialist forest plantation service company Chachaklum connects a network of 218 small forest growers to buyers via a transport intermediary (Ochaeta, 2015a). Similarly, Allpabambu in Ecuador is pursuing an FSC certificate for its bamboo plantations and those of its associates as well as actively participating in a bamboo roundtable to improve awareness of pending legislative changes and try to voice suggestions and concerns (Humphries & Cabrera, 2016a, 2016b). In Cambodia, members of the Rattan Association of Cambodia (RAC) have helped finance the Krang Art Facility – which sources rattan from participating community groups, provides machines and design training to help improve community rattan production techniques, and then sells into the Phnom Penh market (Chey, Prak, Viet, & Ledecq, 2015). In some cases, these second-tier organizations serve to aggregate multiple product lines, as in the Yemboama Union of Burkina Faso that trades in baobab, tamarind, shea butter, desert dates, gum arabic and honey (Kamara, Hill, Kaboret, & Conditamde, 2015).

In terms of political representation, locally controlled forest businesses often play an important role in advocacy for their members. For example, the Nicaraguan AwasTingni community business members played a key role in delimiting indigenous territory, winning a landmark case at the Interamerican Court for Human Rights against the government allocation of a forest concession to a third party (Hodgon, Ramírez, Terrero, & López, 2015). In Indonesia, the cooperative group KHJL were so successful in sustainable forest management that links to the government forest service led to a hand over of more than 4000 ha of state-owned teak plantation for management by KHJL (Busche, 2013). In Thailand, the village of Pred Nai has led the 'Community Coastal Resource Management Network', which tackled widespread mangrove destruction and managed to increase populations of the rare mud crab (*Scylla serra*). Their mangrove management plans and savings groups, supported by local Buddhist monks, have led to the establishment of crab nurseries for reintroduction into rehabilitated mangrove areas, the development of a harvesting regulation program that controls crab catching, and strong participation in policy processes at the local, provincial and national levels (Soontornwong, 2006; UNDP, 2012).

The political benefits of organization often extend to third tier federations, which can lobby for improvements to the enabling environment. For example, in Kenya, the South Coast Forest Owners Association (SCOFOA) is connected via the federation FF-SPAK to discussions with the Kenya Forest Authority about how to simplify the licensing procedures for small tree growers (Kilonzi & Obuola, 2016b). Similarly, in Guatemala 11 s-tier umbrella associations (such as Fedecovera) are linked through a federation (the Alianza) which has helped negotiate a significant incentives program called Probosque (worth 1% of Guatemalan GDP) that favors locally controlled forest businesses (Ochaeta, 2016b). In Nepal, many of the community forest user groups organized into businesses, such as Himalayan Bio Trade or Himalayan Naturals, are also members of a third-tier federation called FECOFUN that represents their interests at parliamentary level. Similarly, the National Farmers Platform of the Gambia (NFPG) has been speaking out on behalf of its 365 association members (such as the Kombo Cashew Farmers Association) since 1998, presiding over the ANR Platform - a multi-stakeholder multi-sectoral platform in which Government and civil society discuss key issues, one of which has been the linking of member organizations to the 'matching grants schemes' to improve agriculture, horticulture, livestock, forestry and fish farming (FFF, 2015).

### 3.2.2. Justice and security

A fourth area of innovation emerging from locally controlled forest businesses are *processes for conflict resolution and justice*. Unlike many other types of business, the democratic local or national legitimacy of LCF businesses often helps their members secure tenure, mediate conflicts, and reduce theft or illegal incursions on their resource rights. This enhances the degree of justice and security experienced by local producers. For example, in Myanmar the La Myang Community Forest Rattan and Bamboo Group Business was established by seven community forest user groups in Kachin State which has for some time been at war with the Myanmar government. The legal registration of community forests (in what was formerly State forest), and the development of businesses based on them, is one mechanism to resolve tension over natural resource use that has in part fueled the conflict (Macqueen, 2016).

Similarly, in the Mondulkiri Forest Venture in Cambodia, work with NGO partners ensured that their 13 community NTFP collector groups attained registered community forest agreements, so that they could avoid unwanted natural resource competition and conflict from economic or social land concessions (Andaya, 2016). In Ecuador, the Asociación Rio 7 (a bamboo producer association) has pushed for the transfer of land from the Government that was annexed during the Ecuador-Peru conflict (1941–1995). The land transfer will reduce local tensions over land and is seen as the Government handing land back to the people (Humphries & Cabrera, 2016b).

In Vietnam, illegal logging, fires and land clearance in areas controlled by the publicly owned Ben Hai Forest company led to a community involvement strategy for joint forest management in which the company ceded land and the communities deployed labor and financial capital to produce trees required by the company under the overall oversight of the Quang Tri Provincial People's Committee (Tan, Linh, & Tuan, 2015). Also, in Vietnam, the Association of Quang Tri Smallholder Forest Certification Groups (AQTSFCG) has used group certification to ensure 50-year land allocations to smallholder tree growers that protect them from expansion by adjacent cash crop producers such as rubber, coffee and pepper (Khanh & Andaya, 2016). These actions reduce tension and improve security.

In Nepal, the Federation of Community Forest Users Nepal (FECOFUN) now represents 19,000 CFUGs across all 75 districts of Nepal: each district has its own federation of groups, and FECOFUN is the national federation. As the largest civil society organization in Nepal it has played an important role in the national democratization process – persuading the government not to expand conservation areas into community forests, protecting user-group rights over forest resources, and resolving disagreements relating to forest product harvesting, taxation, and boundary disputes (FAO & AgriCord, 2016).

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In many cases, local forest business management and oversight structures help their own members agree on resource harvesting rights. For example, as noted above the Honduran Moskibatana business improved spatial limits through mapping of indigenous natural resource management areas as a basis for managing *batana* oil production from *Eleaisoleifera* (Hodgdon & Sandoval, 2015). In the Gambia, the Tumani Tenda Ecotourism enterprise agreed bylaws within the framework of Forest Department policies on community forestry. These bye-laws include the reinvestment of 40% of profits into forest conservation activities, but the enterprise has also contributed to school equipment, village solar energy and water projects and taxi services – fighting for the rights of the community enterprise to be exempted from tax on the grounds of its social contribution, and thereby preventing conflict with government officials (Danso, 2015a). In another example, 249 Lao teak smallholders together registered their plantations with the Provincial Agriculture and Forest Office (PAFO) in Bokeo province to resist incursions from outside investors, such as Chinese banana plantations. The registration certificates also turned out to be useful in recording the true value of their teak trees (number of trees, diameter classes, plot size and location) enabling them to better negotiate and plan supply contracts with local saw-millers and traders (Oro, 2015; RECOFTC, 2015).

### 3.3. Values based on passion

#### 3.3.1. Personal and reproductive fulfilment

A fifth innovation in locally controlled forest business is *processes of entrepreneurial training and empowerment*, for both men and women. These enable both men and women to realize their potential and secure livelihoods that underpin family life (or indeed solitary existence). Such training and empowerment examples are unusual in focusing on business management, not just labor skill development. For example, in Mexico the Ejido El Largo has developed a specific recruitment and training program that increased women employment by 62% between 2010 and 2015 (Hodgdon and Murrieta, 2015). This has had major beneficial impacts on household income and childcare. Similarly, the CAIFUL cooperative in Honduras has invested heavily in training in reduced impact harvesting, quality control and business management – with an emphasis on increasing women's employment from 3 to 22 between 2003 and 2015 including a greater representation in CAIFUL's management (e.g. the cooperatives vice president, president of the oversight board, treasurer and secretary of the board of directors) (Gómez and Hodgdon, 2015). In Cameroon, the Twantoh Mixed Farmer Common Initiative Group (MIFACIG), a rapidly expanding agroforestry farm group, has developed training services as an income generator for its members, with dedicated courses on agroforestry, tree integration into coffee farms, kola nut marketing, tree domestication and planting, and sustainable development – with 3403 trainees between 2005 and 2013 (Foundjem-Tita, Degrande, Mbosso, & Lo-Ah, 2015).

One advanced training program has been developed by the second-tier association FEDECOVERA in Guatemala. This cooperative has a permanent training school for staff of its 36 member-cooperatives which builds capacity for: accessing credit, accounting services, technical production issues for a range of crops and processing industries (e.g. timber, cardamom, coffee, tea, cocoa, essential oils and allspice), quality assurance, logistics, marketing and sales, health and education services (Ochaeta, 2016a, 2016b). Fedecovera now also started with the establishment of a rural school of agro-forestry business, to engage further in rural entrepreneurial and productive training and capacity building. Its focus is on agro-forestry, and it is open for female and male youth coming from rural communities in Guatemala and the wider region (FAO & AgriCord, 2016).

In several cases, the training programs developed by the business were essential to ensure that participating members met required quality standards, so that the business could access higher value markets. For example, in the Cambodian Federation for Bee Conservation and Community Based Wild Honey Enterprises (CBHE), a key initial concern was to provide guidance on quality honey collection, processing and storage techniques, such that a uniform high-quality product could increase sales benefits to members across the country (Seat, Uch, & Pinto, 2015). Similar quality guidelines and training were developed in the Philippines for the women hinabol fabric weavers in terms of raw material processing, weaving and dying to ensure uniform skills development and quality across the women's business group (Padilla-Matibag & Canlas, 2015). But training can go beyond technical quality. In the Gambia, the Kombo Cashew Farmers Association (KCFA) developed training-of-trainers programs for cashew production through farmer field schools, in addition to setting out to resolve internal management conflicts and resource use conflicts by developing leadership training programs (Danso, 2015b). In Bolivia, the skills garnered in forest harvesting operations in AIMCU and its predecessors led to the establishment of a specialist forest services company SERFORCU that sells forest management services to other forest owners (Gutiérrez, 2015b).

#### 3.3.2. Cognitive identity and purpose

A sixth and final area of innovation emerging in locally controlled forest businesses is the development of *branding that reinforces local visions of prosperity*. This helps to integrate personal, community and business motivations behind a single unified agenda. For example, in Java, Indonesia, a major factor leading to the establishment of the KWLM teak-grower's cooperative was the Javanese tradition of 'Hamemayu Hayuing Bawono' guiding humans to live harmoniously with their creator, their fellow humans and the natural environment. All materials for the business such as seedlings, land, timber and labor come from the local environment and reflect that tradition (Windratmo et al., 2015).

Throughout Thailand, Thung Yao village is famed for its fight to manage forest resources itself. This was reflected in their 1987 protest against the government decision to turn their community forest into a national park, which was led by the women who make up more than a third of the community forestry committee. Their reputation has created a market demand for their brand – both in forest products and organic farmed products at local and provincial levels, resulting in an annual income exceeding 30,000 USD (Upadhyay, Arpornsilp, & Soontornwong, 2013).

Similarly, in the rainforests of Southern Ethiopia, the Birbirsa Cooperative is one of several newly established groups whose general assemblies oversee sustainable participatory forest management that protects the coffee crop. The cooperative helped to develop the 'Bale Wild' brand which not only reflects this commitment but also the environmental fact that the forest understory hosts the last wild stands of coffee from which all other genetic material originates. Rainforest Alliance certification underpins the development of the 'Bale Wild' brand (Lemenih & Idris, 2015).

FEDECOVERA (located in departments of Alta and Baja Verapaz, Guatemala) is grounded on the belief that cooperative systems are best able to achieve economic, social and environmental objectives. It invests around 50% of its own resources on direct services to member cooperatives, and ultimately to individual members, prioritizes social inclusion and gender equality, and has played a pioneering role in empowering indigenous ethnic groups Q'eqchis and Pocomchis – with a traditional design reflecting these broad principles of its brand (Ochaeta, 2016a, 2016b).

In many other cases the branding, while less holistic, does underline strong commitments to environmental and social values – often backed by independent certification. For example, in

Guatemala, the XateMayaland Committee was set up as a business selling Easter Palm leaves to the US market. Their strong brand, backed by FSC certification, communicated the cultural origin of the palm leaves – together with great attention to product quality and the social and environmental benefits of production (Ochaeta, 2015b). In Nepal, the Himalayan Natural lead firm sources sustainably produced charcoal briquettes from 23 community forest user groups – with marketing emphasizing the benefits in relation to other less sustainable energy sources (Subedi, Khanal, & Ghimire, 2015b). In Chile, the company SWT helped to establish a smallholder forest owners group by helping forest owners to manage forest regeneration – and managed to become the world's first Fairtrade and FSC joint certified sawmill operator in 2011 (Van Hensbergen, 2013). Another example of joint Fairtrade and FSC certification and branding comes from the COATLAHL cooperative in Honduras which supplies furniture to the export market through COOP Denmark and the Spanish NGO COPADE (Herrera, 2013).

Many further examples exist, such as the Thai family run Doi Chang Coffee Farm, which is pursuing both fair trade certification and certification for the quality of its coffee origin (Cheung, 2015), and in Tanzania, MCDI has been expanding the community managed area under FSC certified forest management to more than 17,000 ha – and became the first commercial exporter of FSC certified blackwood to Hanson, the UK's largest clarinet manufacturer (Ball, 2010). In Thailand, the 'Civil Society Network for Sustainable and Fair Forest Management in FLEGT' in which the Tree Bank Foundation is one of the eight member-groups, is recognized for their slogan: "rights to wood" throughout the supply chain, and their advocacy for a more advanced, sustainable and fair Thai forestry (RECOFTC, 2016).

## 4. Discussion

### 4.1. The potential contribution of these innovations to the Sustainable Development Goals

The Sustainable Development Goals (SDGs) offer perhaps humanity's most broadly accepted (if somewhat unwieldy) framing of prosperity. But to deliver them, there will need to be a step-change in how business contributes towards prosperity, and the scale at which it does so. In Table 3 we make the link between the six areas of innovation described above, and the implementation of the SDGs.

From a forest business perspective, the challenge of the SDGs is that their ambition is both transformative and integrated. For example, to achieve forest specific 'ends' (e.g. to develop businesses that "sustainably manage forests" for goal 15) requires an integrated 'forest module' as described in Macqueen, Milledge, and Reeves (2014) that includes putting in place various 'enabling conditions' that are defined either in other goals or targets beneath those goals [e.g. Target 1.4 of Goal 1 on ending poverty which specifies ensuring 'that all men and women, in particular the poor and the vulnerable, have equal rights to...ownership and control over land..., natural resources, appropriate new technology and financial services, including microfinance'. The transformative element of the SDGs would ideally involve business models that contribute both to enabling conditions and ends, not just business as usual. Additionally, forest businesses impact both local goods (e.g. income, energy, construction materials, food, soil fertility, medicines and cosmetics) and global goods (e.g. biodiversity conservation, carbon sequestration and hydrological cycles). Managing the difficult trade-offs between these goods to achieve an integrated solution is best handled democratically. It is this that gives the innovations emerging from locally controlled forests business their advantage – because their local democratic control is able to weigh up and decide between competing goods (e.g. between, say, maximizing income toward goal 1 and maximizing biodiversity conservation towards goal 15).

### 4.2. The challenge of delivering these contributions to prosperity

Forests contribute to that which people value and have reason to value in line with the common good: prosperity (Seymour, 2016). They constitute the mainstay of terrestrial environmental and cultural heritage, furnish material goods and services, and contribute opportunities and contexts for relationship, security, human employment and meaning. But too often concerns over forest business relate only to how sustainably they manage the forests, as if it didn't matter to whom revenues accrued, whose relationships were empowered, whose security was enhanced, whose capacities were strengthened or whose agenda was furthered. Our analysis shows how these broader dimensions of prosperity are being given explicit consideration by more organizationally complex forms of LCF business [in line with the thinking of Agrawal and Gibson (1999)] as a necessary response to balancing the multiple interests of multiple actors in a community. The integrated framework for prosperity applied in this study helps highlight many ways in which LCF businesses contribute to prosperity in innovative ways, but also the organizational transaction costs of doing so.

These high transaction costs are evident in the abundant literature on common challenges of incubating LCF businesses outlined in our introduction. Yet, the cases cited in our results demonstrate that the cost of overcoming these challenges is often closely aligned with the cost of delivering prosperity. Challenges in common resource management (Gibson et al., 2005) have been addressed through innovations in *democratic oversight bodies governing environmental and cultural stewardship*. Challenges of elite capture (Persha & Andersson, 2014) have been addressed through innovations in *negotiated benefit distribution and financial vigilance mechanisms*. Challenges of access to finance (Vega & Keenan, 2016) access to markets (Scherr et al., 2003) and cost sharing and scale efficiencies (Humphries et al., 2012) have been addressed through innovations in *networks for better access to markets and decision-making*. Challenges of tenure insecurity (RRI, 2012; Anderson et al., 2015) have been addressed through innovations in *processes for conflict resolution and justice*. Challenges of gender inequality (Agarwal, 2001) have been addressed through gender sensitive *processes of entrepreneurial training and empowerment.* Finally, challenges of cultural clashes with the conventional idea of the firm (Antinori & Bray, 2005) have been addressed through innovations in *branding that reinforces local vision of prosperity*. Addressing each of these challenges involved considerable transaction costs.

It is logical to conclude that supporting LCF businesses to strengthen and scale-up such innovations would be beneficial for their members and society. Nevertheless, making such business models viable in remote areas, where they face myriad risks and threats, e.g., from external investors and decision-makers, and must compete with large forest products companies in increasingly discerning national and global markets is no small feat.

The transaction costs of organization of multiple smallholder producers into viable business models is one key challenge. As noted by Ostrom (2010), such organizations are plagued by 'complex linkages among variables at multiple levels that together affect individual reputations, trust, and reciprocity as these, in turn, affect levels of cooperation and joint benefits'. Collective action is costly and by no means is working as a group attractive to all (Bijman, Muradian, & Schuurman, 2016). It involves short and long-term costs that need to be weighed against the benefits of collective action, which often increase over time, and this

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**Table 3**
The potential contribution of innovations emerging in locally controlled forest business to the implementation of the SDGs.

| That which humans value | Sustained environmental and cultural heritage | Material health and wellbeing | Affirmative social relationships | Justice and security | Personal and reproductive fulfilment | Cognitive identity and purpose |
|---|---|---|---|---|---|---|
| Locally controlled forest business innovations | Democratic oversight bodies governing environmental and cultural stewardship | Negotiated benefit distribution and financial vigilance mechanisms | Networks for better access to markets and decision-making | Processes for conflict resolution and justice | Gendered processes of entrepreneurial training and empowerment | Branding that reinforces local vision of prosperity. |
| Sustainable Development Goals (SDGs) | 6. Clean water and sanitation<br>11. Sustainable cities and communities<br>13. Climate action<br>14. Life below water<br>15. Life on land | 1. No poverty<br>2. Zero hunger<br>3. Good health and wellbeing<br>7. Affordable clean energy | 9. Industry, innovation and infrastructure<br>10. Reduced inequalities | 16. Peace justice and strong institutions | 4. Quality education<br>5. Gender equality<br>8. Decent work and economic growth | 12. Responsible production and consumption<br>17. Partnerships for the goals |

calculation takes place both at the individual farmer and group business management level. Poteete and Ostrom (2004) have summarized the costs of collective action along three main problems: coordination problems, distributional struggles and the problem of incentives (associated with common pool resources or simply individual aspirations and needs). However, these challenges can be overcome by innovative institutions who succeed in organizing individuals and groups of people along common interests and incentives, regardless of the size of the group or its heterogeneity (*ibid*).

Achieving success in business, let alone in the broader contributions to prosperity, is almost always an ongoing challenge that requires support from both government and non-government actors (Sikor et al., 2013; Gritten et al., 2015; Macqueen et al., 2015). A series of 11 dialogues organized by The Forest Dialogue (TFD) between investors and representatives of indigenous peoples, community foresters and family smallholders worldwide between 2010 and 2012 highlighted the need for secure commercial tenure, technical extension, business capacity development and organizational support as prerequisites for the emergence of locally controlled forest businesses (Macqueen et al., 2012). Other studies have identified similar challenges for family and community forest enterprises (e.g., Hajjar et al., 2011; Baynes, Herbohn, Smith, Fisher, & Bray, 2015). Each of those four prerequisites requires significant investment not only of finance but of political support and capability, land and labor.

Additionally, democratic decision making has its own challenges. Achieving consensus and balancing individual versus collective interests is complex in any organizational setting and requires active participation of its members, including those with low economic power and voice, and a functioning business governance system that is transparent and accountable to the full membership and not just a small elite. As outlined in this paper, these business models often embody multiple levels of organization within their structures, making the sheer size of membership and supply chains considerably larger and more complex than what is often associated with "small is beautiful".

### 4.3. The entry point to upscale these contributions

Once LCFs are established, upscaling them involves organizational challenges in addition to those just mentioned (Macqueen & deMarsh, 2016). However, evidence from the experience of cooperatives globally indicates that not only does upscaling bring advantages in the form of achieving economies of scale to overcome the costs of coordination, but it also enables cooperative businesses to provide services to disadvantaged social groups and gain the economic and political empowerment that they need to influence decisions that concern their livelihoods and natural resources (Bijman et. al., 2016).

Three interrelated sets of explanatory conditions have been conducive to the integrative scaling up of business models that have broader prosperity objectives (Utting, 2015). The first is the strengthening of capacity, not just of the managers of locally controlled forest businesses themselves but also of government and other external agencies to strengthen assets, competencies and governance processes. Values of prosperity would need also to be embedded within systems of finance and knowledge through technical and values-oriented training services. The second, institutional complementarity, refers to the idea that the viability and sustainability of one form of institution is conditioned by the existence of several others that can complement each other and in conjunction offer better services to the end user. The case of Guatemala is an interesting example of this, where local forest and farm cooperatives, grouped into regional umbrella associations (e.g. Fedecovera), and ultimately a national federation (e.g. the Alianza), are complemented by government institutions and incentives programs (e.g. PINPEP, PINFOR and Probosque). The latter have been designed to complement both business institutions and public and private financing institutions and capacity building initiatives that include business exchanges and round tables. The final third condition is participation or having a "voice" and seat at the table to influence decisions in a meaningful way. Examples from organized federations like those in Guatemala (e.g. the Allianza), Nepal (e.g. FECOFUN), and India (e.g. AMUL) demonstrate the efficacy of having a recognized political voice that can shape other supportive measures for effective scaling up of local producer organizations.

Many of the locally controlled forest businesses mentioned here and elsewhere (see Utting, 2015) have managed to upscale because of their ability to achieve both economic and political empowerment and sustainability – at a range of levels from local, through national and even at international levels (e.g. the International Family Forest Alliance). Where progress has been slower is in the ability of LCF business models to simultaneously advance equity within their own decision-making structures related to gender (Bolin, 2018; ILO, 2015). Women continue to be under represented within leadership structures in mixed-gender group businesses and there is little guidance available on how to advance this in value chain interventions (Stoian et al., 2018). Overall, this is an area that requires further research. The case studies here indicate that democratizing economic decision making within businesses is important in delivering prosperity but is also the major challenge of group organizations.

On the back of the international dialogue process described above, representatives of locally controlled forest and farm businesses worked with the FAO, IIED and IUCN co-management

partners of a new Forest and Farm Facility (FFF) to design a theory of change that would upscale such innovations. They opted to channel support first and foremost to strengthening economically sustainable, tiered forest and farm producer organizations. The assumption was that those producer organizations would then better be able to develop scale efficiencies for members to secure market access on better terms, develop technical and financial services, and lobby for more secure commercial tenure, administrative support, and financial incentives (FFF, 2015). The FFF mid-term review and final report shows quite how impressive the gains against a range of indicators have been – which provides a strong endorsement for that theory of change (FAO, 2016, 2018).

## 5. Conclusions

Our review indicates that locally controlled forest businesses are delivering a diversity of values that contribute to prosperity as we more broadly define it, and their innovations are aligned with achieving the Sustainable Development Goals (SDGs). Case studies were drawn from a wide range of countries, in a wide range of ecological, economic and socio-political contexts. Based on these cases, greater investment is warranted in the organized involvement of the 2.4 billion people reliant on fuelwood and charcoal for cooking, the 1.3–1.5 billion smallholder forest farmers and NTFP users, and the many millions involved in the timber trade (Mayers et al., 2016). Organized involvement will be costly as it includes establishing, managing and upscaling locally controlled businesses that can help deliver the SDGs (FAO and AgriCord, 2016) often in competition with alternative models of the political economy. It is hoped that the presence of the SDGs (and the Paris Agreement on climate change with its associated REDD+ mechanisms) will help mobilize finance. It is hoped also that this finance might be channeled exactly to the strengthening and upscaling of locally controlled forest businesses – echoing similar recent calls for action (Hoare, 2016). The framework for prosperity, and the innovations of the sort described in this paper, should be used to advocate for changes to aid policies and financial mechanisms such that more resources are directed to foster successful locally controlled forest businesses – for the prosperity of us all.

## Conflict of interest

None.

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## Appendix

Table 4

**Table 4**
Catalogue of the source material for each of the case studies in the assessment.

| No | Case study | Source of information |
|---|---|---|
| 1 | Bolivia, AIMCU, Timber | Gutiérrez, V.H. (2015b) Bolivia: Asociación Indígena Maderera de Cururú (AIMCU). Chapter 2 in Macqueen, D.J., Bolin, A. and Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 17–42). IIED, London, UK |
| 2 | Bolivia, APMIL, NTFP – Honey | Gutiérrez, V.H. (2015a) Bolivia: Asociación de Apicultores de San Antonio de Lomerío (APMIL). Chapter 3 in Macqueen, D.J., Bolin, A. and Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 43–62). IIED, London, UK |
| 3 | Brazil, COOMFLONA, Timber, NTFPs – latex, oils, seeds | Humphries, S. Andrade, D. and McGrath, D. (2015) Brazil: Cooperativa Mista da Flona do Tapajós. Chapter 4 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 63–86). IIED, London, UK<br>Humphries, S., Holmes, T.P., Kainer, K., Koury, C.G.G., Cruz, E. and de Miranda Rocha, R. (2012) Are community-based forest enterprises in the tropics financially viable? Case studies from the Brazilian Amazon. *Ecological Economics* 77: 62–73 |
| 4 | Burkina Faso, Yemboama Union, NTFPs – fruit, gum, honey | Kamara, Y., Hill, T., Kaboret, B., and Conditamde, L. (2015) Burkina Faso: Yemboama Union of Non-Timber Forest Product Producers. Chapter 5 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 87–110). IIED, London, UK |
| 5 | Cambodia, CBHE, NTFP – Honey | Seat, L., Uch, S. and Pinto, F. (2015) Cambodian Federation for Bee Conservation and Community Based Wild Honey Enterprises (CBHE). Chapter 6 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 111–134). IIED, London, UK |
| 6 | Cambodia, Mondulkiri Forest Venture, NTFPs – honey, resin, bamboo | Andaya, E. (2016) Cambodia: Mondulkiri Forest Venture. Chapter 2 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 19–44). IIED, London, UK |

(*continued on next page*)

**Table 4** (*continued*)

| No | Case study | Source of information |
|---|---|---|
| 7 | Cambodia, Rattan Association of Cambodia (RAC), NTFP – rattan | Chey, K., Prak, O., Viet, T.L. and Ledecq, T. (2015) Sustainable cottage industries and the Rattan Association of Cambodia. European Tropical Forest Research Network (ETFRN) News: 57: 118–125 |
| 8 | Cameroon, Mixed Farmer Common Initiative Group, NTFPs – Seedlings, honey, Services – ecotourism | Foundjem-Tita, D., Degrande, A., Mbosso, C. And Lo-Ah, K.E. (2015) From demonstration plot to agribusiness and rural tourism. European Tropical Forest Research Network (ETFRN) News: 57: 58–63 |
| 9 | Chile, SSC Wood Technologies S.A., Timber | Van Hensbergen, B. (2013) SSC Wood Technologies SLIMF group in Chile. Forest Stewardship Council, Bonn, Germany |
| 10 | Ecuador, Allpabambu, NTFP – bamboo | Humphries, S. and Cabrera, A. (2016a) Ecuador: Allpabambu – a family bamboo enterprise. Chapter 3 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 44–62). IIED, London, UK |
| 11 | Ecuador, Asociación Rio 7, NTFP – bamboo | Humphries, S. and Cabrera, A. (2016b) Ecuador: Asociación Rio 7. Chapter 4 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 63–78). IIED, London, UK |
| 12 | Ethiopia, Aburo Cooperative, NTFP – frankincense | Lemenih, M. and Idris, H. (2015) Ethiopia: Non-Timber Forest Product business models. Chapter 7 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 135–156). IIED, London, UK |
| 13 | Ethiopia, Birbirsa Cooperative, NTFP – coffee | Lemenih, M. and Idris, H. (2015) Ethiopia: Non-Timber Forest Product business models. Chapter 7 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 135–156). IIED, London, UK |
| 14 | Gambia, Tumani Tenda Ecotourism Enterprise, Services – Ecotourism | Danso, A.A. (2015a) The Gambia: Tumani Tenda Eco-tourism Enterprise. Chapter 17 in Macqueen, D. J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 377–398). IIED, London, UK |
| 15 | Gambia, Kombo Cashew Farmers Association (KCFA), NTFP – cashew | Danso, A.A. (2015b) The Gambia: Kombo Cashew Farmer's Association (KCFA). Chapter 18 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 399–422). IIED, London, UK |
| 16 | Guatemala, ACOFOP, Timber | Grogan, J., Free, C., Morales, G.P., Johnson, A., Alegria, R. and Hodgdon, B. (2015) Sustaining the harvest: Assessment of the conservation status of big-leaf mahogany, Spanish cedar and three lesser known species populations in the forestry concession of the Maya Biosphere Reserve, Petén, Guatemala. Rainforest Alliance Community Forestry Case Studies No.5/10. Rainforest Alliance, New York, USA |
| 17 | Guatemala, Chachaklum, Forest Management Services | Ochaeta, J.J. (2015a) Guatemala: Chachaklum SA. Chapter 8 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 157–176). IIED, London, UK |
| 18 | Guatemala, Fedecovera, Timber, NTFPs – cardamom, tea, coffee, cocoa, essential oils, allspice, | Ochaeta, J.J. (2016b) Guatemala: Federation of Cooperatives of the Verapaces (Fedecovera). Chapter 5 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 79–100). IIED, London, UK |
| 19 | Guatemala, Suchitecos, Timber | Ochaeta, J.J. (2016a) Impulsores Suchitecos del Desarrollo Integral Sociedad Civil (Suchitecos). Chapter 6 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 101–122). IIED, London, UK |
| 20 | Guatemala, XateMayaland Committee, NTFP – Xate palm leaf | Ochaeta, J.J. (2015b) Guatemala: XateMayaland Committee. Chapter 9 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 177–196). IIED, London, UK |
| 21 | Honduras, CAIFUL, Timber | Gómez, N.M. and Hodgdon, B.D. (2015) Creating economic opportunities from sustainable forest management in a protected area. A case study of the ULAKUAS agroforestry cooperative CAIFUL (Río Plátano Biosphere Reserve, Honduras). Rainforest Alliance Community Forestry Case Studies No.4/10. Rainforest Alliance, New York, USA |
| 22 | Honduras, COATAHL, Timber | Herrera, S. (2013) Furniture cooperative in Honduras. Forest Stewardship Council, Bonn, Germany |
| 23 | Honduras, Moskibatana, NTFP – Batana Oil | Hodgdon, B.D. and Sandoval, C.H. (2015) Developing indigenous community forestry enterprises: where tradition meets the market. A case study of Moskibatana (Muskitia, Honduras). Rainforest Alliance Community Forestry Case Studies No.2/10. Rainforest Alliance, New York, USA |
| 24 | Indonesia, KHJL, Timber | Busche, A. (2013) Successful forest cooperative in Indonesia. Forest Stewardship Council, Bonn, Germany. |
| 25 | Indonesia, KWLM, Timber | Windratmo, B.S., Zaini, K., Unggul, S.O. and Sulistio, W. (2015) Indonesia: Koperasi Wana Lestari Menoreh (KWLM). Chapter 10 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 197–218). IIED, London, UK. |
| 26 | Indonesia, KWML, Timber | Bakhtiar, I., Santoso, H., Sundarwan, Novianto, E., Sanyoto, R. And Zaki, A. (2015) Indonesia: Wana Manunggal Lestari Cooperative (KWML). Chapter 11 in Macqueen, D.J.,Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 219–248). IIED, London, UK |
| 27 | Kenya, Kisii Tree Planters Association (KTPA), Timber | Kilonzi, C.M. and Obuola, W.O. (2016a) Kenya: Kisii Tree Planters' Association (KTPA). Chapter 7 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 123–146). IIED, London, UK |
| 28 | Kenya, South Coast Forest Owners Association (SCOFOA), Timber , NTFP – mango and neem | Kilonzi, C.M. and Obuola, W.O. (2016b) Kenya: South Coast Forest Owner Association (SCOFOA). Chapter 8 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 147–172). IIED, London, UK |
| 29 | Lao PDR, Keoset, NTFP – Coffee | Phimmavong, B. (2015) Laos: Keoset Organic Coffee Producer Group. Chapter 12 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 249–274). IIED, London, UK. |
| 30 | Lao PDR, Teak smallholders – Timber | Oro, J. (2015) Equity Case Study Brief #1: Access to Information for Securing Resource and Tenure Rights Houaythong Village, Lao PDR. RECOFTC. Bangkok, Thailand<br>RECOFTC (2015) Timber ownership certification and opportunities for smallholder credit: Case study on teak smallholdings in Bokeo, Lao PDR. RECOFTC, Bangkok, Thailand |

**Table 4** (*continued*)

| No | Case study | Source of information |
|---|---|---|
| 31 | Lao PDR, Houaphanh Handicraft groups – Bamboo | Greijmans, M. and Hitzges, C. (2012). SNV Bamboo Programme: Approaches, Lessons and Innovations in Lao PDR. SNV – Netherlands Development Organisation, Amsterdam, The Netherlands |
| 32 | Mexico, Ejido El Largo, Timber | Hodgdon, B.D. and Murrieta, O.E. (2015) Towards integrated community forest enterprise. A case study of Ejido El Largo y Anexos (Chihuahua, Mexico). Rainforest Alliance Community Forestry Case Studies No.3/10. Rainforest Alliance, New York, USA |
| 33 | Mexico, UCFAS, Timber furniture | Garcia, A. and Lozano, W. (2015) Mexico: Unidad Comunal Forestal Agropecuaria y de Servicios de Ixtlán (UCFAS). Chapter 13 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 273–300). IIED, London, UK. |
| 34 | Mexico, TIP Muebles, Furniture retail | Klooster, D., Taravella, R., and Hodgdon, B.D. (2015) Striking the balance: Adapting community forest enterprise to meet market demands. A case study of TIP Muebles (Oaxaca, Mexico). Rainforest Alliance Community Forestry Case Studies No.7/10. Rainforest Alliance, New York, USA<br>Valdez, G.V.V., Hansen, E.N. and Bliss, J. (2012) Factors impacting marketplace success of community forest enterprises: the case of TIP muebles, Oaxaca, Mexico. *Small-scale Forestry* 11 (3): 339–363 |
| 35 | Myanmar, La Myang Community Forest Rattan and Bamboo Group Business, NTFP – rattan | Macqueen, D.J. (2016) Community forest business in Myanmar: Pathway to peace and prosperity? Consultancy report to Pyoe Pin, Yangon. International Institute for Environment and Development, London, UK |
| 36 | Nepal, Himalayan Bio Trade Pvt Ltd, Paper | Subedi, B., Khanal, S.C., Ghimire, P.L. (2015a) Nepal: Himalayan Bio Trade Pvt Ltd. Chapter 14 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 303–326). IIED, London, UK |
| 37 | Nepal, Himalayan Natural Pvt Ltd | Subedi, B., Khanal, S.C., Ghimire, P.L. (2015b) Nepal: Himalayan Naturals Pvt Ltd. Chapter 15 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 327–348). IIED, London, UK |
| 38 | Nepal, Chisapani community forestry user groups (CFUG) – Fuelwood and timber | Roy, R., Silori, C.S., Bhandari, A. and Paudel, N.S. (2014) Social equity in community forests: two case studies from Nepal. Discussion Paper Series 014.01. ForestAction, Kathmandu, Nepal<br>Oli, B.N., Treue, T. and Smith-Hall, C. (2016) The relative importance of community forests, government forests, and private forests for household-level incomes in the Middle Hills of Nepal. *Forest Policy and Economics* 70: 155–163 |
| 39 | Nicaragua, Awas Tingni – Yamaba, Timber | Hodgon, B.D., Ramírez, F., Terrero, O. and López, G. (2015) The centrality of social capital: Forestry and enterprise development among the indigenous Mayangna of AwasTingni (North Atlantic Autonomous Region, Nicaragua). Rainforest Alliance Community Forestry Case Studies No.1/10. Rainforest Alliance, New York, USA<br>Larson, A.M. (2010) Making the 'rules of the game': Constituting territory and authority in Nicaragua's indigenous communities. *Land Use Policy* 27 (4): 1143–1152 |
| 40 | Peru, ASCART, NTFP – Brazil nuts | Hodgdon, B.D. and Martinez, G. (2015) Transforming small-scale non-timber forest production into competitive enterprise. A case study of work with Brazil Nut producer associations (Madre de Dios, Peru). Rainforest Alliance Community Forestry Case Studies No.6/10. Rainforest Alliance, New York, USA |
| 41 | Peru, Tres Islas, Timber and NTFP Brazil Nut and Aguaje Palm Fruit | Che, H., Deza, P and Hodgdon, B.D. (2015) Towards sustainable landscapes: Strengthening forest management and promoting income diversification in an indigenous community. A case study of work with Tres Islas native community (Madre de Dios, Peru). Rainforest Alliance Community Forestry Case Studies No.8/10. Rainforest Alliance, New York, USA |
| 42 | Philippines: Sunflower Weaver's Association (Sunflower) – NTFP Hinabol Fabric | Padilla-Matibag, M.T. and Canlas, R. (2015) Philippines: Sunflower Weaver's Association. Chapter 19 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 423–446). IIED, London, UK |
| 43 | Tanzania, Mpingo Conservation and Development Initiative (MCDI), Timber | Ball, S. (2010) Biodiversity and certified community forests in Tanzania. European Tropical Forest Research News (ETFRN News) 51: 72–77<br>Kalonga, S.K., Kulindwa, K.A. and Mshale, B.I. (2015) Equity in distribution of proceeds from forest products from certified community-based forest management in Kilwa District, Tanzania. *Small-scale Forestry* 14 (1): 73–89<br>Dokken, T., Caplow, S., Angelsen, A. and Sunderlin, W.D. (2014) Tenure issues in REDD + pilot project sites in Tanzania. *Forests* 5 (2): 234–255 |
| 44 | Thailand, Doi Chang Coffee Farm, NTFP – Coffee | Cheung, A. (2015) Thailand: Doi Chang Coffee Farm (DCCF). Chapter 16 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 349–376). IIED, London, UK |
| 45 | Thailand, Tree Bank Foundation – Timber | Tree Bank Foundation (2016) Guidelines of resource management by Tree Bank. The Nation's Sufficiency, Wealth and Sustainability. Tree Bank Foundation www.treebankthai.com |
| 46 | Thailand, Thung Yao women group – NTFP | Upadhyay, B., Arpornsilp, R. and Soontornwong, S. (2013) Gender and community forests in a changing landscape: Lessons from Ban Thung Yao, Thailand. RECOFTC, Bangkok, Thailand |
| 47 | Thailand, Pred Nai Mangrove Network – Crabs | UNDP (2012) Pred Nai Mangrove Conservation and Development Group, Thailand. Equator Initiative Case Study Series, New York, USA<br>Soontornwong, S. (2006) Improving Rural Livelihood Through CBNRM: A Case of Self-organization in Community Mangrove Management in Thailand. In: J. Fox, M. Nurse, P. Stephen and L. McLees (eds). Hanging in the Balance: Equity in Community Based Natural Resource Management in Asia. RECOFTC and EastWest Center, Bangkok, Thailand |
| 48 | Vietnam, Association of Quang Tri Smallholder Forest Certification Groups, Timber | Khanh, T.T.M. and Andaya, E. (2016) Vietnam: Association of Quang Tri Smallholder Forest Certification Groups (AQTSFCG). Chapter 9 in Bolin, A. and Macqueen, D. (Eds.) Securing the future – managing risk and building resilience within locally controlled forest businesses (pp. 173–196). IIED, London, UK |
| 49 | Vietnam, Ben Hai Forestry Company, Timber, furniture, woodchip, resin and seedlings | Tan, N.G., Linh, B.T., Tuan, H.H. (2015) Ben Hai forestry company. Chapter 20 in Macqueen, D.J., Bolin, A. And Greijmans, M. (Eds.) Democratising forest business: a compendium of successful locally controlled forest business organisations (pp. 447–466). IIED, London, UK |
| 50 | Zambia, North Western Bee Products, NTFP – Honey | Mickels-Kokwe, G. (2006) Small-scale woodland based enterprises with outstanding economic potential. The case of honey in Zambia. CIFOR, Bogor, Indonesia |

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